SON8011U GEPON SYSTEM ONU

User Manual

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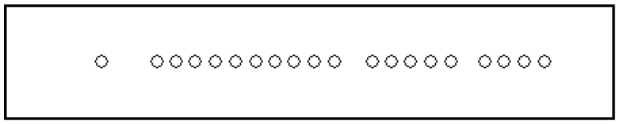
Chapter 1: Product introduction

1. Goods listing

Open the package of fast Ethernet switch, and it contains the following:
A set of ONU, A power supply, a user's manual and a stream line
Please contact with supplier if above product and accessory is missing or damaged.

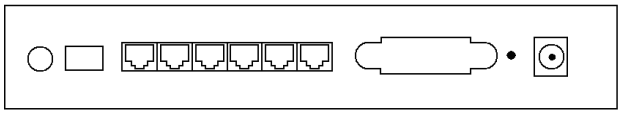
2. Front panel instruction

Front panel of ONU have 20 kinds of status indicators, as the following picture



3. Back panel instruction:

Back panel of ONU from left to right in turn is CATV Port， PON Port, Six RJ45 Ports, a bunch port, a replacement switch and a power supply jack, as following illustrate.



4. Indication light instruction

The signification of indicator from left to right is as following:

LED	Color	Status	Description
POW	Green	light	the indicator will light when ONU is opened.
	--	Non-light	Checking the TX or power supply adaptor, make sure power supply has connected well.
OPT	Green	light	Checking the TX or power supply adaptor, make sure power supply has connected well.
	--	Non-light	Optic link is ok.
HW	Green	light	Hardware is error
	--	Non-light	Normal work status

LLID1 -8	Green	light	Optic link is ok
	--	Non-light	Checking optic link is ok or not
100M	Green	light	Corresponding indicator will light when 100Mbps equipment connect with relevant port.
	--	Non-light	Non-light 100Mbps port does not joint equipment.
LINK100	Green	light	Light when 100Mbps equipment link to relevant port
	--	Non-light	Non-light when 100Mbps port does not joint equipment.
LINK1000	Green	light	Light when 1000Mbps equipment link to relevant port
	--	Non-light	Non-light when 1000Mbps port does not joint equipment.
DUP/ COL	Green	light	Light when port is working base on full duplex mode
	--	Non-light	Non-Light when port is working base on half duplex mode
ACT	Green	Light	Light when equipment normally connect with 100Mbps ONU port
	Green	glitter	Glitter when the port receive or transfer data

5. Main feature:

●Support single fiber WDM technology (downstream 1490mm, upstream 1310mm), only need to link with OLT together by one fiber, the transfer length's at least 20Km.

●Bandwidth distribution has flexible, downstream share bandwidth by adapting encrypt broadcast transfer way for different user. .Upstream share bandwidth by TDMA . Adjust automatically speed rate according to the line status. Support minimum speed rate adjustment base on 1kbps, and establish firm basic to fractionize business for telecommunication dealer.

●Support generally team broadcast function. User can choose to achieve mutual video multimedia business by themselves name (such as VOD, Video conference)

●Bind user, MAC address and IP address together in order to prevent account was embezzled hostility, ramble, virus spread abroad and attack of hostility data stream., so that can provide perfect safety guarantee measure for user.

●Support multi LLID and single LLID configuration mean. Different user and business can adapt different LLID access. Guarantee user's different OOS grade.

Installation and maintenance are very easy. Support differed local/long-distance and many means to manage configuration and upgrade of software. Work in partial port OLT. It can make long-distance malfunction diagnosis and orientation function come true, and greatly reduces maintenance workload.

●Network connects: Provide high speed date business for user.

●FTTH connects: Provide high speed date business and CATV business for family user which already has speech copper line resource.

●FTTB connects: adapt the mean of fiber to corridor or big corridor to provide high speed data business.

●CATV connects: CATV Insert:1310/1490nm optical signal division, receiving 1550nm optical signal, simulative CATV signal ,IP TV signal, high definition TV signal , satellite signal.

Physics feature

●Physics dimension (length240 x width117 x high30, unit: mm)

●Power supply： DC 5V

●Function loss： 8W

●Temperature：

Operating temperature： 0～50℃

Storage temperature： -30～60℃

Relative humidity： 10～90% (non-condensation)

●Weight： 1KG

Technology guide line:

Standard :IEEE 802.3ah、IEEE 802.3、IEEE 802.3u、IEEE 802.3x、IEEE 802.3z 、IEEE802.1d、IEEE 802.1p、IEEE 802.1q、IEEE 802.1x、RFC1155、RFC1157、RFC1112、RFC1113 and so on.

- Five fixed 10/100M BASE-TX Port
- A fixed 10/100/1000M BASE-TX Port
- 128 digit AES Encrypt
- Support 8 logic link.
- Each Ethernet port support 64 Mac Addresses based on 802.1D Bridging
- Support 802.1Q VLAN
- Support 802.1P
- Support 40 stream (20 upstream/20 downstream)
- Inbuilt 1.25 MB buffering
- Support 802.3ah OAM
- Support 802.3ah transfer error and revise
- Inbuilt MIB
- Frequency range: CATV/40~860MHZ,STV/40~2200MHZ
- RF75ohm coaxial cable interface: TX port: Metric F / England F
- RF output power:≥80dBuV(when input optical power is -6dBm)
- Smooth of inside band:TV±1dB，STV±2dB
- CNR≥47dB,CSO≤-61dB,CTR≤-61dB

Chapter 2: Installation and link

1. Attention item for setting

Please insure that there is suitable work environment and enough free space before installing machine. Please note the installing requirement as following:

Power supply requirement: 100v-240v alternating current, power supply jack and equipment should be within 1.8m.

Machine should be putted in the ventilated and dry environment, there must leave 10cm free space from front to back of machine to airiness

Insure that around for machine has enough airiness port in order to diffuse quantity of heat, at the same time; don’t put anything heavy on the converter.

Chapter 3：Software upgrade

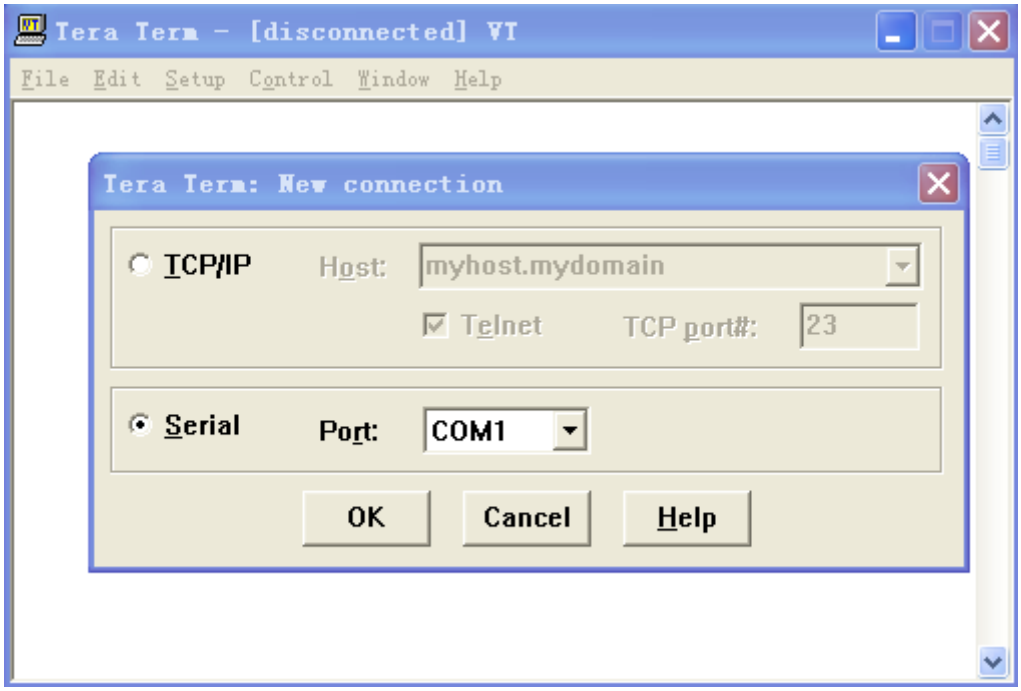
As below introduction of software upgrade is available for single ONU. If it is mixed with our OLT, It’s better to operate it in the OLT’s management section depend on professional people.

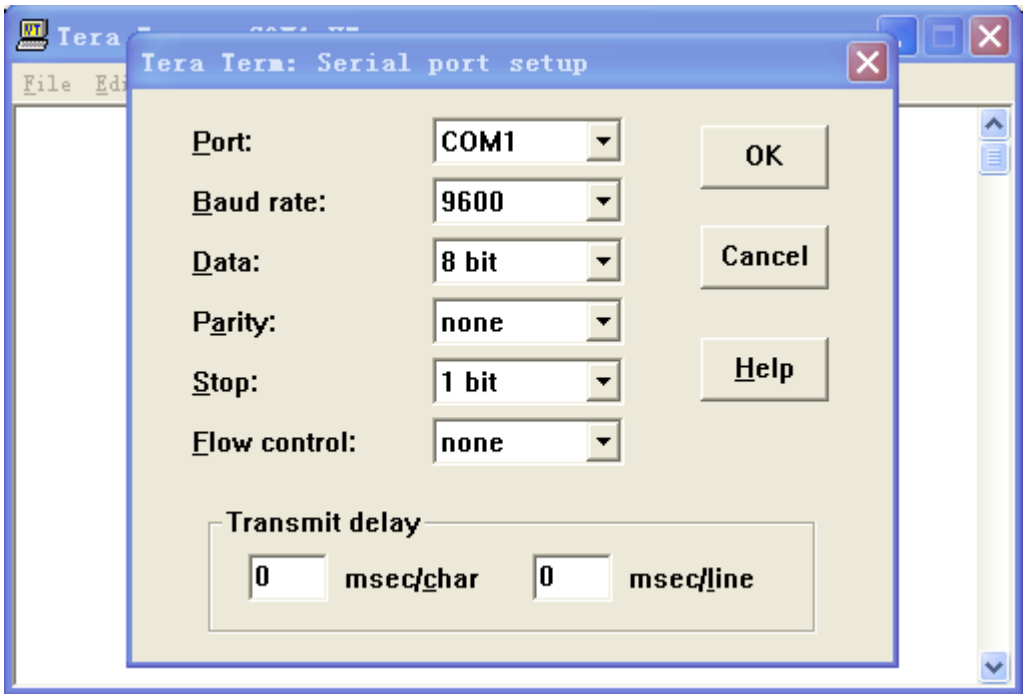
3.1 Preparationz

1. A PC with RS-232-C port, a RS-232 stream line.
2. prepare Tera Term software in PC.
3.Prepare upgrade document: Boot3713_0093_SPI_8Mb.tkf,App3713_R132_SPI_8Mb.tkf，Pers3713_R132.tkf

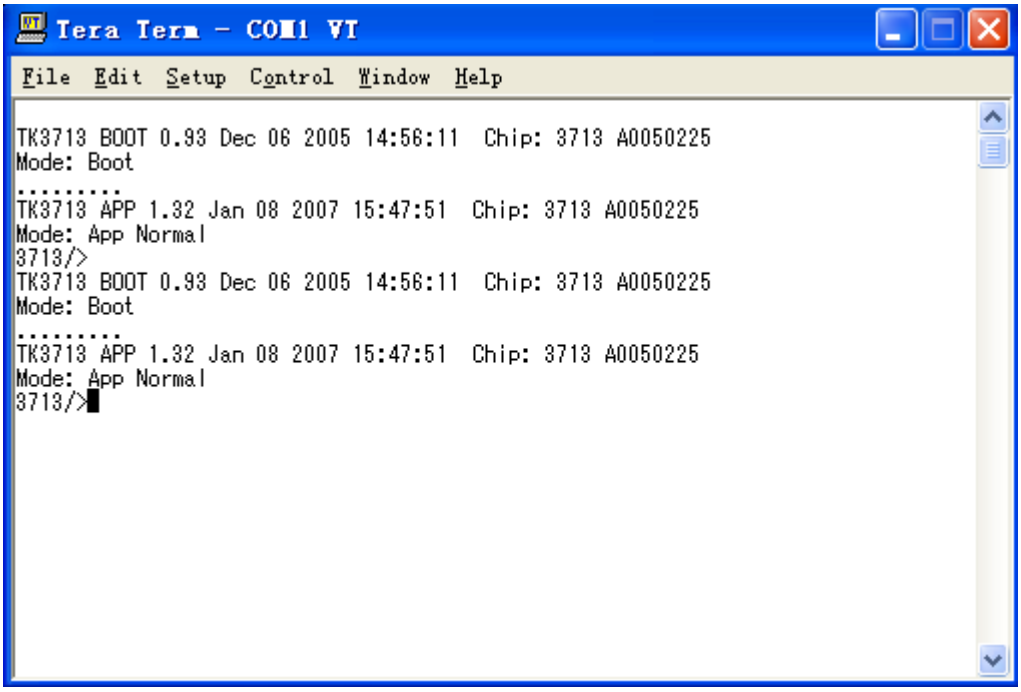
3.2 Means and process:

1. Start PC, and click “Tera Termpro”, then start the upgrade software.
2. Set software, as following chart:

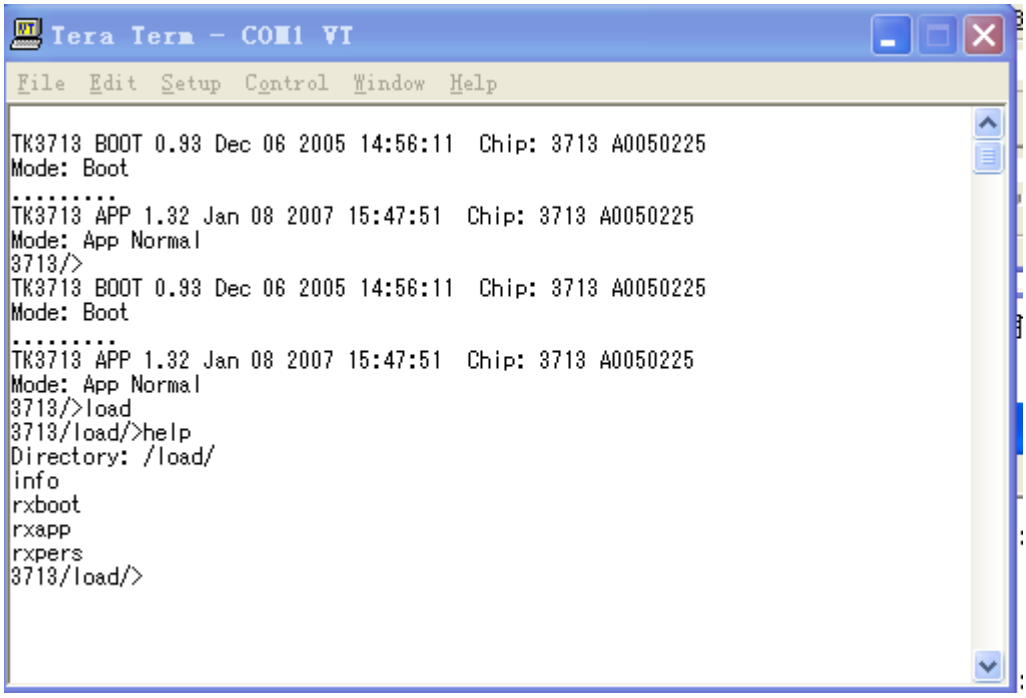




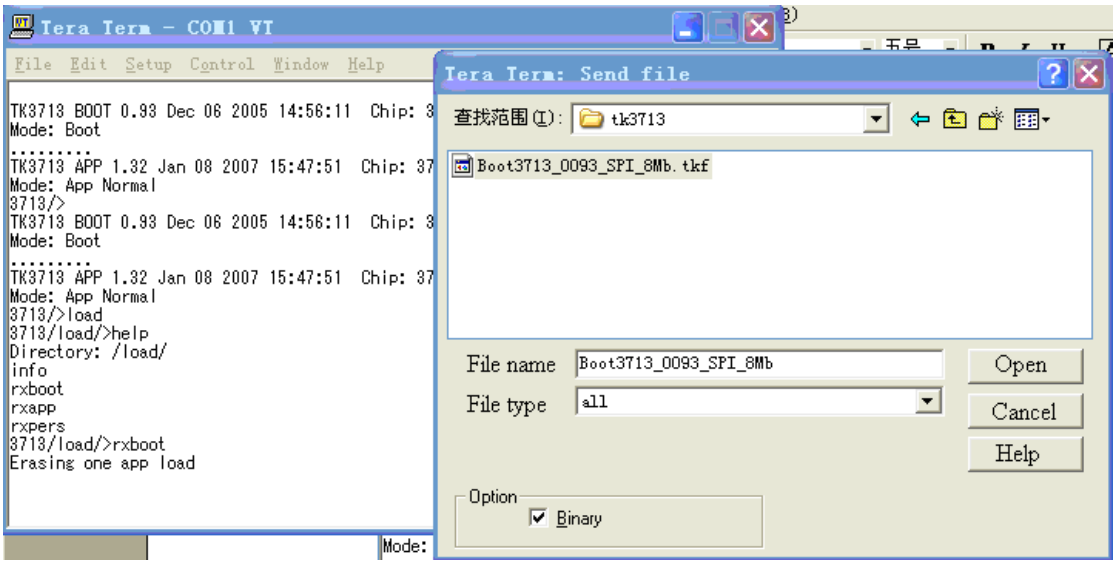
3. Connect ONU with relevant bunch port on the PC RS-232, then turn on the power, as following chart:


Tera Term - COM1 VT
File Edit Setup Control Window Help
TK3713 BOOT 0.93 Dec 06 2005 14:56:11 Chip: 3713 A0050225
Mode: Boot
.....
TK3713 APP 1.32 Jan 08 2007 15:47:51 Chip: 3713 A0050225
Mode: App Normal
3713/>
TK3713 BOOT 0.93 Dec 06 2005 14:56:11 Chip: 3713 A0050225
Mode: Boot
.....
TK3713 APP 1.32 Jan 08 2007 15:47:51 Chip: 3713 A0050225
Mode: App Normal
3713/>

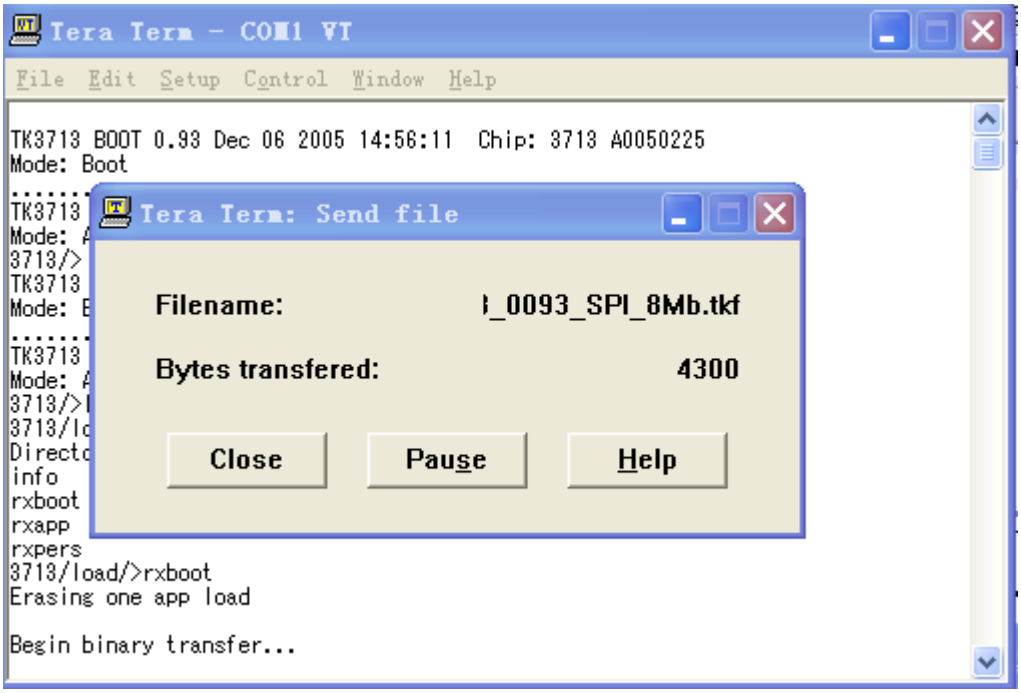
4. As the dos prompt shown above, input load order as following chart:



5. Firstly, upgrade Boot code, as following dos prompt input ”rxboot” click the ”file” and choose “send file” , then “Boot3713_00XX_SPI_8Mb.tkf” you want to upgrade, as following char:



Click “open”, start to upgrade”bootcode”, as following chart:



6. As above method, upgrade ”app”, “pers” in turn. Input”rxapp” order while upgrade “app” choose”App3713_Rxxx_SPI_8Mb.tkf” file, input “rxpers” order when up grade “pers”, choose”Pers3713_RXXX.tkf” file.

7. After finishing the upgrade. Pls restart ONU to check if the status is ok or not..

Chapter 4: Remark

100M port can't be used for ONU of China Telecom edition.

Chapter 5. Annex

(100M 5 port management methods -optional)

ONU No. 2 to No. 6 RJ45 port is 100M port.

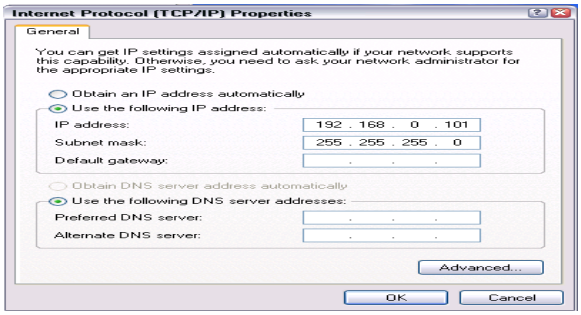
This five-port management is a choice, if you did not choose this management functions, machines will be working in accordance with the default mode.

ONU five of the port management 100M There are two ways:

The first one: with OLT connected computer directly on the importation of this five-port management chip address (192.168.0.100) into the management interface.
The second: 100 M arbitrary port through a network of computers connected with the computer input management chip address (192.168.0.100) to enter management interface.
Please refer to attached document for the details.

5.1 Software Introduction

The switch is Web based management basic on IP address. Firstly. Please set an IP address for PC according to switch's default IP address， and make sure the switch and PC must be in the same gateway. Please open web browser, input the switch IP address, for example：http://192.168.0.100, and input the user's name and password （default user's name is "admin"，Password is "1234"）, then you might enter into the management interface.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 0 . 101
Subnet mask: 255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

5.2 Administrator

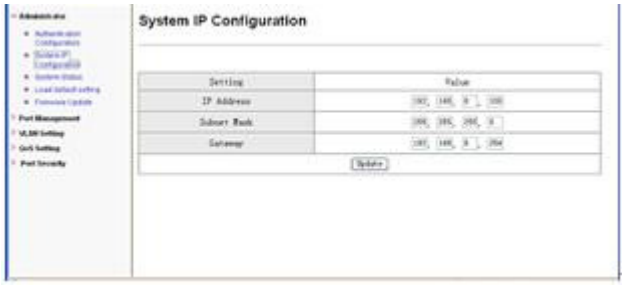
The master should login on the user login page. Only after entered the management page, the master can manage IP setup, browse system conditions, reset origin setup and update it's version.

5.2.1 User name and password

The master must use the exact user name and password to login. The master can amend the User name and password after login.

5.2.2 System IP setup

It includes the setup of IP address, subnet mask, and gateway. The master may manage the switch after you set the same gateway of PC and the switch.



5.2.3 System status

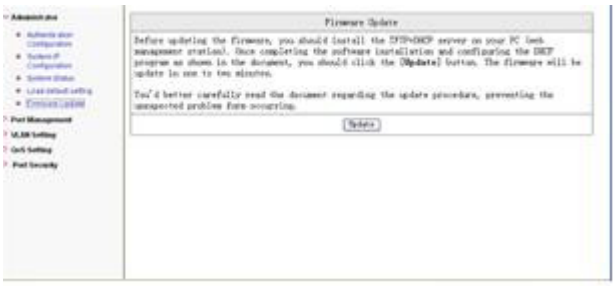
System includes MAC address, number of ports, comment and system Version. You may check the system condition when you enter into the page.

5.2.4Load default setting

The user may reset the switch original setup if it is required. The switch is with original setup on the first using.

5.2.5 Update version

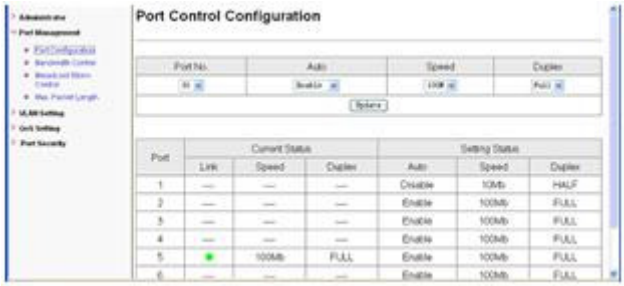
This function is to update the firmware. The system may update the system software. Please operate exactly like the menu when you update the firmware.



5.3 Port management

5.3.1 Port Configuration

This function is to set port rate, full/half duplex, auto-negotiation and data-communication



5.3.2 Bandwidth control

5.3.3 Broadcast storm control

It can leach the internet Broadcast Storm. When the function is on, the ports will abandon the broadcast frame when it reach the maximum rate. If the function is off or the broadcast storm dose not reach the maximum rate, the broadcast frame will be broadcast to the switch ports.

5.3.5 Max Packet Length control

This function is for setup max. data packet length, which default rate is 1536 byte.

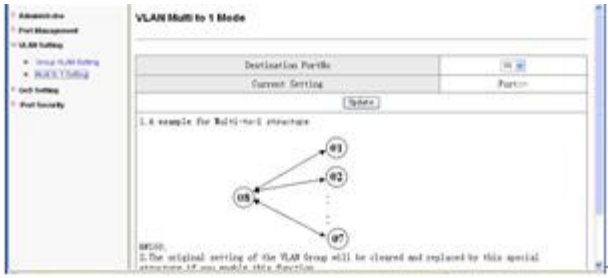
5.4 VLAN setting

5.4.1 VLAN Groups setting

You can set max. four VLAN groups in one ONU Switch. There are max. 8 member ports in one VLAN group. The member ports of the same VLAN group can be communicated each other.

5.4.2 VLAN Multi to One Mode

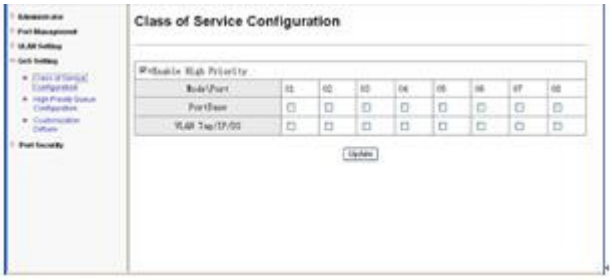
This function regards ports as target VLAN, other ports can add into this target VLAN port as a VLAN group. But after this function is active, the original setup of the VLAN group may be replaced or cleared.



5.5 QoS setting

5.5.1 Class of Service Configuration

You may setup the priority of data packet forwarding by port base. The high priority port might forward the data packet first.

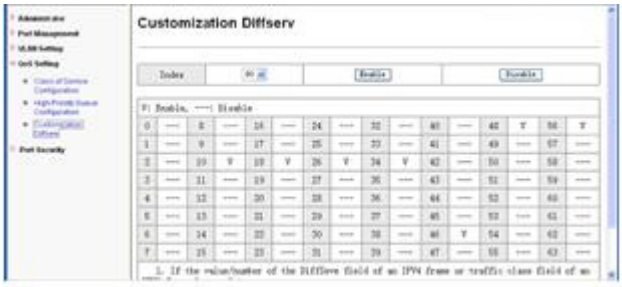


5.5.2 High Priority Queue Configuration

This function is for priority queue configuration of switch for Weight-Round-Robin low weight 1/4 and 1/8.

5.5.3 Customization differentiate serving setting

Activating this function may differentiate PRI through some certain bits of package received. After activating a certain serial number, the switch will distinguish each received data package with this serial number to see if this data package is high priority package, if yes, it will be switched as priority.



5.6 Port security setting

After power on reset, each port will record the first receiving data packet's source MAC address as "security MAC address". A security port only allows that data packet which has the" security MAC address" to active on.

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